

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re Application of	:	Customer Number: 20277
	:	
Siu-leong IU, et al.	:	Confirmation Number: 3640
	:	
Application No.: 09/763,917	:	Tech Center Art Unit: 3685
	:	
Filed: July 03, 2001	:	Examiner: Winter, John M
	:	
For: WATERMARKING SYSTEM AND METHODOLOGY FOR DIGITAL MULTIMEDIA CONTENT		

**APPEAL BRIEF**

Mail Stop Appeal Brief  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

This Appeal Brief is submitted in support of the Notice of Appeal filed August 18, 2010, wherein Appellants appeal from the Primary Examiner's rejection of claims 19-30, and 62-77.

**Real Party In Interest**

This application is assigned to Digital Video Express, L.P. by assignment recorded on July 3, 2001, at Reel 011952, Frame 0457.

**Related Appeals and Interferences**

Appellants are unaware of any related Appeals or Interferences.

**Status of Claims**

1. Claims canceled: 1-18, 31-61

2. Claims withdrawn from consideration, but not canceled: none
3. Claims pending: 19-30, 62-77
4. Claims allowed: none
5. Claims rejected: 19-30, 62-77
6. Claims on appeal: 19-30, 62-77

#### **Status of Amendments**

No amendments have been made to the claims following the February 18, 2010 final Office Action.

#### **Summary of Claimed Subject Matter**

Independent claims 19-21 and 23-30 of the present invention are each directed to a playback unit, comprising:

an input for receiving an encoded data stream bearing a video image; (FIG. 1, **102**)

a decoder for decoding the encoded data stream; (FIG. 1, **108b**) and

means for imparting a prescribed transformation to the video image for warping the video image in a manner, and by an amount, not readily visible to a viewer such that a composite video image produced by multiple video playback units will be distorted and the distortion of the composite video image can be seen by the viewer, (page 36, lines 1-11, Specification; FIG. 1, **104b**)

Independent claim 19 further recites that the warping changes with time during playback of the video image. (page 4, lines 22-24, Specification).

Independent claim 20 further recites that the warping is selected randomly from among a plurality of mapping functions pre-stored in a playback unit. (page 4, lines 24-26, Specification).

Independent claim 21 further recites that the image is warped by compressing spacing between pixels in one direction and expanding spacing in another direction. (page 37, lines 5-7, Specification).

Independent claim 23 further recites that the warping is defined by a geometric transformation. (page 38, lines 7-12, Specification).

Independent claim 24 further recites that the warping is derived by backward warping of a two-dimensional geometric transformation of said video image. (page 38, lines 7-12, Specification).

Independent claim 25 further recites that the warping is performed by a three-dimensional transformation of said video image. (page 38, lines 22-28, Specification).

Independent claim 26 further recites that the warping is described by a linear function. (page 38, lines 19-21, Specification).

Independent claim 27 further recites that the warping is described by a quadratic function. (page 41, lines 9-17-24, Specification).

Independent claim 28 further recites that the warping is described by a spline function. (page 43, lines 5-9, Specification).

Independent claim 29 further recites a means for applying a motion vector to pixels of said video image for image transformation. (page 43, lines 10-20, Specification).

Independent claim 30 further recites a means for performing different image transformations in different regions of said video image. (page 47, lines 11-23, Specification).

Independent claim 62 is directed toward a method for processing an audio or video data stream containing digital watermark data, comprising:

utilizing a playback unit for playing out information contained in the audio or video data stream; (page 36, lines 1-3, Specification) and

during playing by the playback unit, altering the audio or video information by applying to the audio or video data stream a predetermined mapping function associated with the playback unit to distort the audio or video, (page 4, lines 20-22, Specification) wherein

audio or video information produced by combining multiple audio or video data streams corresponding to said information, from different playback units, is distorted and the distortion of the produced audio information can be heard by a listener of the produced audio information or the distortion of the produced video information can be seen by a viewer of the produced video information, (page 36, line 27- page 37, line 4, Specification) and

said video information comprises a video image embedded in a video data stream, and said video image is distorted during playback by a playback unit in accord with the predetermined mapping function by an amount not readily visible to the viewer, but such that a video image produced by combining multiple video data streams reproduced by multiple different playback units is distorted and the distortion can be seen by the viewer. (page 4, lines 27-30, page 36, line 31, page 37, line 4, Specification,)

**Grounds of Rejection To Be Reviewed By Appeal**

**1. Claims 19-30 and 62-77 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Appellants regard as the invention.**

**2. Claims 19-30 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Rhoads (USP No. 6,363,159) in view of Saito (USP No. 6,182,218) and further in view of Chaum (USP No. 5,959,717).**

**3. Claims 62-77 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Rhoads (USP No. 6,363,159) in view of Chaum (USP No. 5,959,717).**

**Argument**

For the convenience of the Honorable Board of Patent Appeals and Interferences (the “Board”), Appellants do not separately argue the patentability of any of the dependent claims. Accordingly, claim 22 stands or falls together with independent claim 19 and claims 63-77 stand or fall together with independent claim 62.

**1. Claims 19-30 and 62-77 are not indefinite for failing to particularly point out and distinctly claim the subject matter which Appellants regard as the invention.**

It is asserted in the final Office Action that the phrase “not readily visible to a viewer” does not quantify an amount of warping and is therefore indefinite. Appellants respectfully disagree.

In reviewing a claim for compliance with 35 U.S.C. 112, second paragraph, the examiner must consider the claim as a whole to determine whether the claim apprises one of ordinary skill in the art of its scope and, therefore, serves the notice function required by 35 U.S.C. 112, second paragraph, by providing clear warning to others as to what constitutes infringement of the patent. See, e.g., *Solomon v. Kimberly-Clark Corp.*, 216 F.3d 1372, 1379, 55 USPQ2d 1279, 1283 (Fed. Cir. 2000). The requirement to 'distinctly' claim means that the claim must have a meaning discernible to one of

ordinary skill in the art when construed according to correct principles. *Metabolite Labs., Inc. v. Lab. Corp. of Am. Holdings*, 370 F.3d 1354, 1366, 71 USPQ2d 1081, 1089 (Fed. Cir. 2004).

Section 2173.02 of the MPEP states that “[s]ome latitude in the manner of expression and the aptness of terms should be permitted even though the claim language is not as precise as the examiner might desire. Examiners are encouraged to suggest claim language to applicants to improve the clarity or precision of the language used, *but should not reject claims or insist on their own preferences if other modes of expression selected by applicants satisfy the statutory requirement.*”

The present disclosure is directed toward a novel system and methodology for processing a video bitstream where multiple (N) copies have been combined by a pirate from N players, for making it difficult to extract the running mark data for any player. This is performed, in accord with one aspect, by altering the video image slightly using any of a variety of different mapping functions during encoding to warp the video image by a small amount. The mapping function may change from time to time, such as periodically, using small changes of pixel position on the screen, or sharper changes upon significant scene changes. In one embodiment, each time a video is played, the player will select randomly among a finite number of mapping functions applied during encoding of the video bitstream.

Pixels thus are shifted in position and must be realigned to the original pixel positions in the reproduced video upon decoding so that the image will not appear distorted. A pirate will be able to perform the necessary realignment of pixels only by doing so for each legitimate copy combined to make an unauthorized master copy of a video. This work on the part of the pirate is made more difficult by the fact that the pirate will not have possession of the original. The position shift furthermore prevents the pirate from being able to remove the watermarks by discerning the

corresponding correlation function by well known video techniques, such as taking the average or multiplexing among the N copies.

The specification clarifies the difficulty in that “[t]he watermark, added to the data stream each time playback of content received from a provider or reproduced from a prerecorded medium is played, comprises virtually invisible marks embedded into the compressed digital data stream.” (see, page 36, lines 1-4 of the specification).

On page 36, lines 8-11 of the specification further recites “The watermarks are not visible to a viewer, but can be detected and decoded by hardware maintained by an authorized institution. The institution, in possession of a DVD, for example, containing protected material, will play the material using equipment that detects and decodes the watermark.”

The term “readily” is defined as “without much difficulty” (Webster’s New Collegiate Dictionary, G.&C. Merriam Co, 1977), or “in a manner connoting ease, easily” (<http://www.thefreedictionary.com/readily>). Thus, the phrase, “not readily visible”, would suggest that the watermark is viewable “with much difficulty”. As indicated in the specification, the watermarks are “virtually invisible”, because they are “not visible” to a viewer, but “can be detected and decoded by hardware maintained only by an authorized institution.” One skilled in the art would find obtaining access to this authorized hardware difficult for a pirate. Accordingly, the claims describe, with sufficient precision and clarity to one skilled in the art, the amount of visibility afforded to a viewer. Therefore, Appellants submit that claims 19-30 and 62-77 are not indefinite according to 35 U.S.C. § 112, second paragraph. As such, Appellants respectfully request that the § 112 rejection be withdrawn.

**2. Claims 19-30 are not obvious in view of Rhoads (USP No. 6,363,159) in view of Saito (USP No. 6,182,218) and further in view of Chaum (USP No. 5,959,717)**

For the convenience of the Honorable Board of Patent Appeals and Interferences (the “Board”), Appellants do not separately argue the patentability of any of the dependent claims. Accordingly, claim 22 stands or fall together with independent claim 19. In addition, as Appellants will be arguing the patentability of the same limitations repeated in independent claims 19-21 and 23-30, in order to prevent unnecessary repetition of the same argument.

In addition, although claims 19-21 and 23-30 are all independent claims, the Examiner has combined these claims together under one rejection. Accordingly, Appellants will discuss the rejection of claims 19-30 under the same heading.

**i. Claims 19-30 Do Not Recite Intended Use Language**

In the rejection of claims 19-30, the Examiner states that the language Appellant considers lacking from the prior art references is directed towards intended use (“will be distorted and the distortion of the composite video image can be seen by the viewer”).

Appellants vigorously disagree that the language “will be distorted and the distortion of the composite video image can be seen by the viewer” is intended use. The Tracing Watermark Inserter 104a, 104b provides the functionality of imparting a prescribed transformation to the video image for warping the video image in a manner, and by an amount, not readily visible to a viewer such that a composite video image produced by multiple video playback units will be distorted and the distortion of the composite video image can be seen by the viewer. As such, the language is not an “intended use” as suggested by the Examiner, but rather, a limitation on the means for imparting the prescribed transformation. The limitation clearly causes the means for transformation to be limited to those



transformations which distort the composite video image and can be seen by the viewer. The limitation is in no way an intended use, because it does not in any way suggest how the video image will be used.

Accordingly, Appellants respectfully submit that claims 19-30 are not indefinite and request the Honorable to withdraw the § 112 rejection.

ii. The Cited Prior Art Does Not Disclose All Limitations Of The Pending Claims

One aspect of claims 19-21 and 23-30 is that they recite:

a means for imparting a prescribed transformation to the video image for warping the video image in a manner, and by an amount, not readily visible to a viewer such that a composite video image produced by multiple video playback units will be distorted and the distortion of the composite video image can be seen by the viewer.

For example, the Tracing Watermark Inserter 104a, 104b as shown in FIG. 1 represents the corresponding structure for the “means for imparting” element of claims 19-21 and 23-30.

It is alleged that Rhoads discloses a means for imparting a prescribed transformation in col. 28, lines 1-28. The Office Action asserts that Rhoads refers to a “break” in the signal that is not noticeable using a high end sound system. Applicants respectfully disagree.

The passage to which the Office Action is referring discusses a method of copyright marking of an audio signal. Thus, the passage is not concerned with the claimed warping of a video image, but rather an audio image. Moreover, the passage from Rhoads discusses a way of imparting an industry standardized noise signal whose precise length would be “derived from considerations such as audibility, quasi-white noise status, seamless, repeatability, simplicity of recognition processing, and speed with which a copyright marking determination can be made”. Thus, Rhoads is directed to

making a signal that is easy to find and readily producible, exactly the opposite ideal as that of the present application.

As is clear, Rhoads in no way suggests that the signal noise will be distorted and the distortion of the composite video image can be seen by the viewer. The signal noise has nothing at all to do with warping or producing a distortion for the purposes of preventing piracy. As such, Rhoads fails to teach or suggest a means for imparting a prescribed transformation to the video image for warping the video image in a manner, and by an amount, not readily visible to a viewer.

It is further admitted that Rhoads fails to teach that the means imparts the distortion such that a composite video image produced by multiple video playback units will be distorted and the distortion of the composite video image can be seen by the viewer. It is alleged that Chaum teaches a distortion such that a composite video image produced by multiple video playback units will be distorted and the distortion of the composite video image can be seen by the viewer in col. 8, lines 47 to col. 9, line 9. Appellants disagree.

The recited passage of Chaum does not discuss distorting a video image. Rather, Chaum discloses splitting of a recording into multiple parts. The multiple parts must be combined together to produce the complete recording. Nowhere in Chaum is it taught that the combined parts impart a distortion on the video image, much less that the distortion can be seen by a viewer. As such, Chaum does not correct the deficiency of Rhoads. Moreover, Saito does not, and is not relied upon to remedy this deficiency.

In the office action, the Examiner admitted that Rhoads does not disclose or suggest the feature of claim 19 of “a decoder for decoding the encoded data stream” but relies on Saito at column 8, lines 15-18, in an attempt to overcome this deficiency. Applicant disagrees.

Column 8, lines 15-18, of Saito provides:

- 15     The sub-system comprises an environmental sub-system for performing emulation of other operating system and graphics displaying, and a core sub-system such as a security sub-system, and an application program.

The citation of Saito merely describes a sub-system for graphics displaying. However, such disclosure does not teach “a decoder for decoding the encoded data stream” as suggested by the Examiner.

Additionally, there is no motivation to combine these references. The motivation cited by the Examiner of “to enforce digital rights management systems” has been taken out of context. Chaum does not discuss digital rights management systems nor does Chaum pertain to multiple audio or video data streams. Instead, Chaum is directed towards the prevention of motion picture copy protection via the use of playback devices, a film and movie projector. The differences between such projectors and the techniques in Rhoads for embedding auxiliary data in a video signal and subsequently attempting to extract that data to authenticate the video signal are substantial. In fact, none of the cited references impart “a prescribed transformation to the video image for warping the video image in a manner, and by an amount, not readily visible to a viewer such that a composite video image produced by multiple video playback units will be distorted and the distortion of the composite video image can be seen by the viewer.” In other words, one of ordinary skill in the art would never consider applying the standard movie and film projectors discussed in Chaum to the teachings of Rhoads and Saito, to practice the invention of claim 1. Hence, the motivation provided by the Examiner is wholly insufficient.

As such, Appellants submit that Rhoades, alone or in combination with Chaum and Saito, fails to render claims 19-30 obvious.

**3. Claims 62-77 are not obvious in view of Rhoads (USP No. 6,363,159) in view of Chaum (USP No. 5,959,717)**

Independent claim 62 recites a method for processing an audio or video data stream containing digital watermark data, comprising:

utilizing a playback unit for playing out information contained in the audio or video data stream; and

during playing by the playback unit, altering the audio or video information by applying to the audio or video data stream a predetermined mapping function associated with the playback unit to distort the audio or video, wherein

audio or video information produced by combining multiple audio or video data streams corresponding to said information, from different playback units, is distorted and the distortion of the produced audio information can be heard by a listener of the produced audio information or the distortion of the produced video information can be seen by a viewer of the produced video information, and

said video information comprises a video image embedded in a video data stream, and said video image is distorted during playback by a playback unit in accord with the predetermined mapping function by an amount not readily visible to the viewer, but such that a video image produced by combining multiple video data streams reproduced by multiple different playback units is distorted and the distortion can be seen by the viewer.

The Examiner admits that Rhoads does not disclose or suggest “[s]uch that audio or video information produced by combining multiple audio or video data streams corresponding to said information, from different playback units will be perceptibly distorted” but relies on Chaum in an attempt to obviate these deficiencies of Rhoads. Applicant disagrees.

Chaum fails to cure the deficiencies of Rhoads because it fails to disclose or suggest “[s]uch that audio or video information produced by combining multiple audio or video data streams corresponding to said information, from different playback units will be perceptibly distorted.” Rather, Chaum discloses a system to prevent surreptitious in-theater filming of a projected film by means of a video camera synchronized to the framing rate of the film. For theft deterrence, Chaum discloses that a motion picture may be provided in two parts--a film component and a video component. The film component may have a selected portion--a "protection area"--of selected frames omitted. Conversely, a video projector is provided with a video signal that provides image content for the protection area omitted from the film version of the motion picture. Copy protection is improved because a thief would have to steal both components in order to display a complete motion picture. However, it would not be possible to record both images as displayed on the screen because a video camera records a fixed frame rate. As a result, non-perceptible distortions would be in Chaum during the instance the video is recorded. However, Chaum fails to disclose or suggest “[s]uch that audio or video information produced by combining multiple audio or video data streams corresponding to said information, from different playback units will be perceptibly distorted.” On the contrary, the playback devices in Chaum, a film and movie projector, yield non-perceptibly distorted audio and video.

As Rhoads and Chaum fail to disclose the above cited limitations of claim 62, then based on the foregoing, it is submitted that Rhoads, alone or in combination with Chaum does not render claim 62, or any claim dependent thereon obvious.

### **Conclusion:**


Based upon the foregoing Appellants submit that a *prima facie* basis to deny patentability to the claimed invention under 35 U.S.C. § 103 has not been established. Moreover, upon giving due

consideration to the potent indicium of nonobviousness stemming from the failure to disclose all of the limitations of the claimed invention by Chaum, Saito and Rhoads, the conclusion appears inescapable that one having ordinary skill in the art would **not** have found the claimed subject matter **as a whole** obvious within the meaning of 35 U.S.C. § 103. *In re Piasecki*, 745 F.2d 1468, 223 USPQ 785 (Fed. Cir. 1984).

Appellants submit that the imposed rejection of claims 19-30 and 62-77 under 35 U.S.C. § 103 for obviousness predicated upon Chaum in view of Saito and Rhoads or claims and 62-77 upon Chaum in view of Rhoads is not factually or legally viable. Appellants, therefore, solicit the Honorable Board to reverse the Examiner's rejection of the appealed claims under 35 U.S.C. § 103.

Respectfully submitted,

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**CLAIMS APPENDIX**

19. A playback unit, comprising:

an input for receiving an encoded data stream bearing a video image;

a decoder for decoding the encoded data stream; and

means for imparting a prescribed transformation to the video image for warping the video image in a manner, and by an amount, not readily visible to a viewer such that a composite video image produced by multiple video playback units will be distorted and the distortion of the composite video image can be seen by the viewer, wherein

said warping changes with time during playback of the video image.

20. A playback unit, comprising:

an input for receiving an encoded data stream bearing a video image;

a decoder for decoding the encoded data stream; and

means for imparting a prescribed transformation to the video image for warping the video image in a manner, and by an amount, not readily visible to a viewer such that a composite video image produced by multiple said video playback units will be distorted and the distortion of the composite video image can be seen by the viewer, wherein

said warping is selected randomly from among a plurality of mapping functions pre-stored in a playback unit.

21. A playback unit, comprising:

an input for receiving an encoded data stream bearing a video image;

a decoder for decoding the encoded data stream; and

means for imparting a prescribed transformation to the video image for warping the video image in a manner, and by an amount, not readily visible to a viewer such that a composite video image produced by multiple video playback units will be distorted and the distortion of the composite video image can be seen by the viewer, wherein

the image is warped by compressing spacing between pixels in one direction and expanding spacing in another direction.

22. A playback unit in accordance with claim 19, wherein said warping changes upon scene change of said video image.

23. A playback unit, comprising:

an input for receiving an encoded data stream bearing a video image;

a decoder for decoding the encoded data stream; and

means for imparting a prescribed transformation to the video image for warping the video image in a manner, and by an amount, not readily visible to a viewer such that a composite video image produced by multiple video playback units will be distorted and the distortion of the composite video image can be seen by the viewer, wherein

said warping is defined by a geometric transformation.



24. A playback unit, comprising:

an input for receiving an encoded data stream bearing a video image;

a decoder for decoding the encoded data stream; and

means for imparting a prescribed transformation to the video image for warping the video image in a manner, and by an amount, not readily visible to a viewer such that a composite video image produced by multiple video playback units will be distorted and the distortion of the composite video image can be seen by the viewer, wherein

said warping is derived by backward warping of a two-dimensional geometric transformation of said video image.

25. A playback unit, comprising:

an input for receiving an encoded data stream bearing a video image;

a decoder for decoding the encoded data stream; and

means for imparting a prescribed transformation to the video image for warping the video image in a manner, and by an amount, not readily visible to a viewer such that a composite video image produced by multiple video playback units will be distorted and the distortion of the composite video image can be seen by the viewer, wherein

said warping is performed by a three-dimensional transformation of said video image.

26. A playback unit, comprising:

an input for receiving an encoded data stream bearing a video image;

a decoder for decoding the encoded data stream; and

means for imparting a prescribed transformation to the video image for warping the video image in a manner, and by an amount, not readily visible to a viewer such that a composite video image produced by multiple video playback units will be distorted and the distortion of the composite video image can be seen by the viewer, wherein

said warping is described by a linear function.

27. A playback unit, comprising:

an input for receiving an encoded data stream bearing a video image;

a decoder for decoding the encoded data stream; and

means for imparting a prescribed transformation to the video image for warping the video image in a manner, and by an amount, not readily visible to a viewer such that a composite video image produced by multiple video playback units will be distorted and the distortion of the composite video image can be seen by the viewer, wherein

said warping is described by a quadratic function.

28. A playback unit, comprising:

an input for receiving an encoded data stream bearing a video image;

a decoder for decoding the encoded data stream; and

means for imparting a prescribed transformation to the video image for warping the video image in a manner, and by an amount, not readily visible to a viewer such that a composite video image produced by multiple video playback units will be distorted and the distortion of the composite video image can be seen by the viewer, wherein

said warping is described by a spline function.

29. A playback unit, comprising:

an input for receiving an encoded data stream bearing a video image;

a decoder for decoding the encoded data stream;

means for imparting a prescribed transformation to the video image for warping the video image in a manner, and by an amount, not readily visible to a viewer such that a composite video image produced by multiple video playback units will be distorted and the distortion of the composite video image can be seen by the viewer; and

means for applying a motion vector to pixels of said video image for image transformation.

30. A playback unit, comprising:

an input for receiving an encoded data stream bearing a video image;

a decoder for decoding the encoded data stream;

means for imparting a prescribed transformation to the video image for warping the video image in a manner, and by an amount, not readily visible to a viewer such that a composite video image produced by multiple video playback units will be distorted and the distortion of the composite video image can be seen by the viewer; and

means for performing different image transformations in different regions of said video image.

62. A method for processing an audio or video data stream containing digital watermark data, comprising:

utilizing a playback unit for playing out information contained in the audio or video data stream; and

during playing by the playback unit, altering the audio or video information by applying to the audio or video data stream a predetermined mapping function associated with the playback unit to distort the audio or video, wherein

audio or video information produced by combining multiple audio or video data streams corresponding to said information, from different playback units, is distorted and the distortion of the produced audio information can be heard by a listener of the produced audio information or the distortion of the produced video information can be seen by a viewer of the produced video information, and

said video information comprises a video image embedded in a video data stream, and said video image is distorted during playback by a playback unit in accord with the predetermined mapping function by an amount not readily visible to the viewer, but such that a video image produced by combining multiple video data streams reproduced by multiple different playback units is distorted and the distortion can be seen by the viewer.

63. The method in accordance with claim 62 wherein said mapping function changes with time during playback of the video image by a playback unit.

64. The method in accordance with claim 62 wherein said mapping function is selected randomly from among a plurality of mapping functions pre-stored in a playback unit.

65. The method in accordance with claim 64, wherein the image is distorted by the playback unit by compressing spacing between pixels in one direction and expanding spacing in another direction.

66. The method in accordance with claim 62, wherein said mapping function is changed upon scene change of said video image.

67. The method in accordance with claim 66, wherein the mapping function is changed in a first manner within a scene, and is changed in a second manner upon a scene change.

68. The method in accordance with claim 62, wherein said mapping function is defined by a geometric transformation

69. The method in accordance with claim 68, wherein said mapping function is derived by backward warping of a two-dimensional geometric transformation of said video image.

70. The method in accordance with claim 68, wherein said mapping function is derived by a three-dimensional geometric transformation of said video image.

71. The method in accordance with claim 68, wherein said mapping function is linear.

72. The method in accordance with claim 68, wherein said mapping function is quadratic.

73. The method in accordance with claim 68, wherein said mapping function is a spline function.

74. The method in accordance with claim 68, wherein a motion vector is applied to one or more pixels of said video image for image transformation.

75. The method in accordance with claim 68, wherein the mapping function is obtained from a stored table.

76. The method in accordance with claim 68, wherein the mapping function is obtained from a computed table.

77. The method in accordance with claim 68, wherein different image transformations are performed in different regions of said video image.

**EVIDENCE APPENDIX**

No extrinsic evidence is relied on in this Appeal.

**RELATED PROCEEDINGS APPENDIX**

There are no related proceedings associated with this Appeal.